



## SEQUENCE LISTING

&lt;110&gt; CHANG, XIAO-JIA

&lt;120&gt; METHODS OF PRODUCING ANTIBODIES FOR DIAGNOSTICS AND THERAPEUTICS

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&lt;210&gt; 1

&lt;211&gt; 42

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 1

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42

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&lt;213&gt; Homo sapiens

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&lt;213&gt; Homo sapiens

&lt;400&gt; 3

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&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 4

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 Leu Glu Cys Val Pro Thr Glu Glu Ser Asn Ile Thr Met Gln Ile Met  
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160 165 170	
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175 180 185	
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&lt;400&gt; 15

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 Lys Ser Trp Ser Val Pro Cys Gly Pro Cys Ser Glu Arg Arg Lys His  
 165 170 175  
 Leu Phe Val Gln Asp Pro Gln Thr Cys Lys Cys Ser Cys Lys Asn Thr  
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 Thr His Leu Asp Met Leu Arg His Leu Tyr Gln Gly Cys Gln Val Val  
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Arg Thr Val Cys Ala Gly Cys Ala Arg Cys Lys Gly Pro Leu Pro	
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240	245
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270	275
275	280
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Ser Met Pro Asn Pro Glu Gly Arg Tyr Thr Phe Gly Ala Ser Cys Val	
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305	310

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Gln Arg Cys Glu Lys Cys Ser Lys Pro Cys Ala Arg Val Cys Tyr Gly	
330 335 340	
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Leu Gly Met Glu His Leu Arg Glu Val Arg Ala Val Thr Ser Ala Asn	
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Ile Gln Glu Phe Ala Gly Cys Lys Ile Phe Gly Ser Leu Ala Phe	
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ggc gct ttt ggc aca gtc tac aag ggc atc tgg atc cct gat ggg gag Gly Ala Phe Gly Thr Val Tyr Lys Gly Ile Trp Ile Pro Asp Gly Glu 730 735 740	2382
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Pro Lys Ala Asn Lys Glu Ile Leu Asp Glu Ala Tyr Val Met Ala Gly	
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Thr Val Gln Leu Val Thr Gln Leu Met Pro Tyr Gly Cys Leu Leu Asp	
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His Val Arg Glu Asn Arg Gly Arg Leu Gly Ser Gln Asp Leu Leu Asn	
810 815 820	
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Leu Val His Arg Asp Leu Ala Ala Arg Asn Val Leu Val Lys Ser Pro	
845 850 855	
aac cat gtc aaa att aca gac ttc ggg ctg gct cgg ctg ctg gac att	2766
Asn His Val Lys Ile Thr Asp Phe Gly Leu Ala Arg Leu Leu Asp Ile	
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Lys Pro Tyr Asp Gly Ile Pro Ala Arg Glu Ile Pro Asp Leu Leu Glu	
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Lys Gly Glu Arg Leu Pro Gln Pro Pro Ile Cys Thr Ile Asp Val Tyr	
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970 975 980	

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Pro Asp Pro Ala Pro Gly Ala Gly Gly Met Val His His Arg His Arg	
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Ser Ser Ser Thr Arg Ser Gly Gly Asp Leu Thr Leu Gly Leu Glu	
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Ala Pro Leu Thr Cys Ser Pro Gln Pro Glu Tyr Val Asn Gln Pro Asp	
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Val Arg Pro Gln Pro Pro Ser Pro Arg Glu Gly Pro Leu Pro Ala Ala	
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Arg Pro Ala Gly Ala Thr Leu Glu Arg Ala Lys Thr Leu Ser Pro Gly	
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Lys Asn Gly Val Val Lys Asp Val Phe Ala Phe Gly Gly Ala Val Glu	
1180 1185 1190	
aac ccc gag tac ttg aca ccc cag gga gga gct gcc cct cag ccc cac	3774
Asn Pro Glu Tyr Leu Thr Pro Gln Gly Gly Ala Ala Pro Gln Pro His	
1195 1200 1205	

cct cct cct gcc ttc agc cca gcc ttc gac aac ctc tat tac tgg gac	3822
Pro Pro Pro Ala Phe Ser Pro Ala Phe Asp Asn Leu Tyr Tyr Trp Asp	
1210 1215 1220	
cag gac cca cca gag cgg ggg gct cca ccc agc acc ttc aaa ggg aca	3870
Gln Asp Pro Pro Glu Arg Gly Ala Pro Pro Ser Thr Phe Lys Gly Thr	
1225 1230 1235 1240	
cct acg gca gag aac cca gag tac ctg ggt ctg gac gtg cca gtg	3915
Pro Thr Ala Glu Asn Pro Glu Tyr Leu Gly Leu Asp Val Pro Val	
1245 1250 1255	
tgaaccagaa ggccaagtcc gcagaagccc tgatgtgtcc tcagggagca gggaggcct	3975
gacttctgct ggcataaga ggtgggaggg ccctccgacc acttccaggg gAACCTGCCA	4035
tgccaggaac ctgtcctaag gaacccctt tcctgcttga gttccagat ggcttggagg	4095
ggtccagcct cgttggaga ggaacacgac tggggagtct ttgtggattc tgaggccctg	4155
cccaatgaga ctcttagggtc cagtggatgc cacagccag cttggccctt tccttccaga	4215
tcctgggtac tgaaaggcctt agggaaagctg gcctgagagg ggaagcggcc ctaagggagt	4275
gtctaagaac aaaagcgacc cattcagaga ctgtccctga aactagtac tgccccccat	4335
gaggaaggaa cagcaatggc gtcagtatcc aggctttgtt cagagtgtt ttctgttttag	4395
tttttacttt ttttgggggg ttttttaaa gacgaaataa agaccaggg gagaatgggt	4455
gttgtatggg gaggcaagtg tgggggggtcc ttctccacac ccactttgtc catttgcaaa	4515
tatattttgg aaaac	4530

<210> 17  
 <211> 1255  
 <212> PRT  
 <213> Homo sapiens

<400> 17	
Met Glu Leu Ala Ala Leu Cys Arg Trp Gly Leu Leu Leu Ala Leu Leu	
1 5 10 15	
Pro Pro Gly Ala Ala Ser Thr Gln Val Cys Thr Gly Thr Asp Met Lys	
20 25 30	
Leu Arg Leu Pro Ala Ser Pro Glu Thr His Leu Asp Met Leu Arg His	
35 40 45	
Leu Tyr Gln Gly Cys Gln Val Val Gln Gly Asn Leu Glu Leu Thr Tyr	
50 55 60	
Leu Pro Thr Asn Ala Ser Leu Ser Phe Leu Gln Asp Ile Gln Glu Val	
65 70 75 80	

Gln Gly Tyr Val Leu Ile Ala His Asn Gln Val Arg Gln Val Pro Leu  
 85 90 95

Gln Arg Leu Arg Ile Val Arg Gly Thr Gln Leu Phe Glu Asp Asn Tyr  
 100 105 110

Ala Leu Ala Val Leu Asp Asn Gly Asp Pro Leu Asn Asn Thr Thr Pro  
 115 120 125

Val Thr Gly Ala Ser Pro Gly Gly Leu Arg Glu Leu Gln Leu Arg Ser  
 130 135 140

Leu Thr Glu Ile Leu Lys Gly Gly Val Leu Ile Gln Arg Asn Pro Gln  
 145 150 155 160

Leu Cys Tyr Gln Asp Thr Ile Leu Trp Lys Asp Ile Phe His Lys Asn  
 165 170 175

Asn Gln Leu Ala Leu Thr Leu Ile Asp Thr Asn Arg Ser Arg Ala Cys  
 180 185 190

His Pro Cys Ser Pro Met Cys Lys Gly Ser Arg Cys Trp Gly Glu Ser  
 195 200 205

Ser Glu Asp Cys Gln Ser Leu Thr Arg Thr Val Cys Ala Gly Gly Cys  
 210 215 220

Ala Arg Cys Lys Gly Pro Leu Pro Thr Asp Cys Cys His Glu Gln Cys  
 225 230 235 240

Ala Ala Gly Cys Thr Gly Pro Lys His Ser Asp Cys Leu Ala Cys Leu  
 245 250 255

His Phe Asn His Ser Gly Ile Cys Glu Leu His Cys Pro Ala Leu Val  
 260 265 270

Thr Tyr Asn Thr Asp Thr Phe Glu Ser Met Pro Asn Pro Glu Gly Arg  
 275 280 285

Tyr Thr Phe Gly Ala Ser Cys Val Thr Ala Cys Pro Tyr Asn Tyr Leu  
 290 295 300

Ser Thr Asp Val Gly Ser Cys Thr Leu Val Cys Pro Leu His Asn Gln  
 305 310 315 320

Glu Val Thr Ala Glu Asp Gly Thr Gln Arg Cys Glu Lys Cys Ser Lys  
 325 330 335

Pro Cys Ala Arg Val Cys Tyr Gly Leu Gly Met Glu His Leu Arg Glu  
 340 345 350

Val Arg Ala Val Thr Ser Ala Asn Ile Gln Glu Phe Ala Gly Cys Lys  
 355 360 365

Lys Ile Phe Gly Ser Leu Ala Phe Leu Pro Glu Ser Phe Asp Gly Asp  
 370 375 380

Pro Ala Ser Asn Thr Ala Pro Leu Gln Pro Glu Gln Leu Gln Val Phe  
 385 390 395 400  
 Glu Thr Leu Glu Glu Ile Thr Gly Tyr Leu Tyr Ile Ser Ala Trp Pro  
 405 410 415  
 Asp Ser Leu Pro Asp Leu Ser Val Phe Gln Asn Leu Gln Val Ile Arg  
 420 425 430  
 Gly Arg Ile Leu His Asn Gly Ala Tyr Ser Leu Thr Leu Gln Gly Leu  
 435 440 445  
 Gly Ile Ser Trp Leu Gly Leu Arg Ser Leu Arg Glu Leu Gly Ser Gly  
 450 455 460  
 Leu Ala Leu Ile His His Asn Thr His Leu Cys Phe Val His Thr Val  
 465 470 475 480  
 Pro Trp Asp Gln Leu Phe Arg Asn Pro His Gln Ala Leu Leu His Thr  
 485 490 495  
 Ala Asn Arg Pro Glu Asp Glu Cys Val Gly Glu Gly Leu Ala Cys His  
 500 505 510  
 Gln Leu Cys Ala Arg Gly His Cys Trp Gly Pro Gly Pro Thr Gln Cys  
 515 520 525  
 Val Asn Cys Ser Gln Phe Leu Arg Gly Gln Glu Cys Val Glu Glu Cys  
 530 535 540  
 Arg Val Leu Gln Gly Leu Pro Arg Glu Tyr Val Asn Ala Arg His Cys  
 545 550 555 560  
 Leu Pro Cys His Pro Glu Cys Gln Pro Gln Asn Gly Ser Val Thr Cys  
 565 570 575  
 Phe Gly Pro Glu Ala Asp Gln Cys Val Ala Cys Ala His Tyr Lys Asp  
 580 585 590  
 Pro Pro Phe Cys Val Ala Arg Cys Pro Ser Gly Val Lys Pro Asp Leu  
 595 600 605  
 Ser Tyr Met Pro Ile Trp Lys Phe Pro Asp Glu Glu Gly Ala Cys Gln  
 610 615 620  
 Pro Cys Pro Ile Asn Cys Thr His Ser Cys Val Asp Leu Asp Asp Lys  
 625 630 635 640  
 Gly Cys Pro Ala Glu Gln Arg Ala Ser Pro Leu Thr Ser Ile Val Ser  
 645 650 655  
 Ala Val Val Gly Ile Leu Leu Val Val Val Leu Gly Val Val Phe Gly  
 660 665 670  
 Ile Leu Ile Lys Arg Arg Gln Gln Lys Ile Arg Lys Tyr Thr Met Arg  
 675 680 685

Arg Leu Leu Gln Glu Thr Glu Leu Val Glu Pro Leu Thr Pro Ser Gly  
 690 695 700  
 Ala Met Pro Asn Gln Ala Gln Met Arg Ile Leu Lys Glu Thr Glu Leu  
 705 710 715 720  
 Arg Lys Val Lys Val Leu Gly Ser Gly Ala Phe Gly Thr Val Tyr Lys  
 725 730 735  
 Gly Ile Trp Ile Pro Asp Gly Glu Asn Val Lys Ile Pro Val Ala Ile  
 740 745 750  
 Lys Val Leu Arg Glu Asn Thr Ser Pro Lys Ala Asn Lys Glu Ile Leu  
 755 760 765  
 Asp Glu Ala Tyr Val Met Ala Gly Val Gly Ser Pro Tyr Val Ser Arg  
 770 775 780  
 Leu Leu Gly Ile Cys Leu Thr Ser Thr Val Gln Leu Val Thr Gln Leu  
 785 790 795 800  
 Met Pro Tyr Gly Cys Leu Leu Asp His Val Arg Glu Asn Arg Gly Arg  
 805 810 815  
 Leu Gly Ser Gln Asp Leu Leu Asn Trp Cys Met Gln Ile Ala Lys Gly  
 820 825 830  
 Met Ser Tyr Leu Glu Asp Val Arg Leu Val His Arg Asp Leu Ala Ala  
 835 840 845  
 Arg Asn Val Leu Val Lys Ser Pro Asn His Val Lys Ile Thr Asp Phe  
 850 855 860  
 Gly Leu Ala Arg Leu Leu Asp Ile Asp Glu Thr Glu Tyr His Ala Asp  
 865 870 875 880  
 Gly Gly Lys Val Pro Ile Lys Trp Met Ala Leu Glu Ser Ile Leu Arg  
 885 890 895  
 Arg Arg Phe Thr His Gln Ser Asp Val Trp Ser Tyr Gly Val Thr Val  
 900 905 910  
 Trp Glu Leu Met Thr Phe Gly Ala Lys Pro Tyr Asp Gly Ile Pro Ala  
 915 920 925  
 Arg Glu Ile Pro Asp Leu Leu Glu Lys Gly Glu Arg Leu Pro Gln Pro  
 930 935 940  
 Pro Ile Cys Thr Ile Asp Val Tyr Met Ile Met Val Lys Cys Trp Met  
 945 950 955 960  
 Ile Asp Ser Glu Cys Arg Pro Arg Phe Arg Glu Leu Val Ser Glu Phe  
 965 970 975  
 Ser Arg Met Ala Arg Asp Pro Gln Arg Phe Val Val Ile Gln Asn Glu  
 980 985 990

Asp Leu Gly Pro Ala Ser Pro Leu Asp Ser Thr Phe Tyr Arg Ser Leu  
 995 1000 1005  
 Leu Glu Asp Asp Asp Met Gly Asp Leu Val Asp Ala Glu Glu Tyr Leu  
 1010 1015 1020  
 Val Pro Gln Gln Gly Phe Phe Cys Pro Asp Pro Ala Pro Gly Ala Gly  
 1025 1030 1035 1040  
 Gly Met Val His His Arg His Arg Ser Ser Ser Thr Arg Ser Gly Gly  
 1045 1050 1055  
 Gly Asp Leu Thr Leu Gly Leu Glu Pro Ser Glu Glu Ala Pro Arg  
 1060 1065 1070  
 Ser Pro Leu Ala Pro Ser Glu Gly Ala Gly Ser Asp Val Phe Asp Gly  
 1075 1080 1085  
 Asp Leu Gly Met Gly Ala Ala Lys Gly Leu Gln Ser Leu Pro Thr His  
 1090 1095 1100  
 Asp Pro Ser Pro Leu Gln Arg Tyr Ser Glu Asp Pro Thr Val Pro Leu  
 1105 1110 1115 1120  
 Pro Ser Glu Thr Asp Gly Tyr Val Ala Pro Leu Thr Cys Ser Pro Gln  
 1125 1130 1135  
 Pro Glu Tyr Val Asn Gln Pro Asp Val Arg Pro Gln Pro Pro Ser Pro  
 1140 1145 1150  
 Arg Glu Gly Pro Leu Pro Ala Ala Arg Pro Ala Gly Ala Thr Leu Glu  
 1155 1160 1165  
 Arg Ala Lys Thr Leu Ser Pro Gly Lys Asn Gly Val Val Lys Asp Val  
 1170 1175 1180  
 Phe Ala Phe Gly Gly Ala Val Glu Asn Pro Glu Tyr Leu Thr Pro Gln  
 1185 1190 1195 1200  
 Gly Gly Ala Ala Pro Gln Pro His Pro Pro Pro Ala Phe Ser Pro Ala  
 1205 1210 1215  
 Phe Asp Asn Leu Tyr Tyr Trp Asp Gln Asp Pro Pro Glu Arg Gly Ala  
 1220 1225 1230  
 Pro Pro Ser Thr Phe Lys Gly Thr Pro Thr Ala Glu Asn Pro Glu Tyr  
 1235 1240 1245  
 Leu Gly Leu Asp Val Pro Val  
 1250 1255

<210> 18  
 <211> 1466  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (44)..(826)

<400> 18  
 agcccaagg ttaccacctg caccggaga gctgtgtgtc acc atg tgg gtc ccg 55  
 Met Trp Val Pro  
 1

gtt gtc ttc ctc acc ctg tcc gtg acg tgg att ggt gct gca ccc ctc 103  
 Val Val Phe Leu Thr Leu Ser Val Thr Trp Ile Gly Ala Ala Pro Leu  
 5 10 15 20

atc ctg tct cgg att gtg gga ggc tgg gag tgc gag aag cat tcc caa 151  
 Ile Leu Ser Arg Ile Val Gly Gly Trp Glu Cys Glu Lys His Ser Gln  
 25 30 35

ccc tgg cag gtg ctt gtg gcc tct cgt ggc agg gca gtc tgc ggc ggt 199  
 Pro Trp Gln Val Leu Val Ala Ser Arg Gly Arg Ala Val Cys Gly Gly  
 40 45 50

gtt ctg gtg cac ccc cag tgg gtc ctc aca gct gcc cac tgc atc agg 247  
 Val Leu Val His Pro Gln Trp Val Leu Thr Ala Ala His Cys Ile Arg  
 55 60 65

aac aaa agc gtg atc ttg ctg ggt cgg cac agc ctg ttt cat cct gaa 295  
 Asn Lys Ser Val Ile Leu Leu Gly Arg His Ser Leu Phe His Pro Glu  
 70 75 80

gac aca ggc cag gta ttt cag gtc agc cac agc ttc cca cac ccg ctc 343  
 Asp Thr Gly Gln Val Phe Gln Val Ser His Ser Phe Pro His Pro Leu  
 85 90 95 100

tac gat atg agc ctc ctg aag aat cga ttc ctc agg cca ggt gat gac 391  
 Tyr Asp Met Ser Leu Leu Lys Asn Arg Phe Leu Arg Pro Gly Asp Asp  
 105 110 115

tcc agc cac gac ctc atg ctg ctc cgc ctg tca gag cct gcc gag ctc 439  
 Ser Ser His Asp Leu Met Leu Leu Arg Leu Ser Glu Pro Ala Glu Leu  
 120 125 130

acg gat gct gtg aag gtc atg gac ctg ccc acc cag gag cca gca ctg 487  
 Thr Asp Ala Val Lys Val Met Asp Leu Pro Thr Gln Glu Pro Ala Leu  
 135 140 145

ggg acc acc tgc tac gcc tca ggc tgg ggc agc att gaa cca gag gag 535  
 Gly Thr Thr Cys Tyr Ala Ser Gly Trp Gly Ser Ile Glu Pro Glu Glu  
 150 155 160

ttc ttg acc cca aag aaa ctt cag tgt gtg gac ctc cat gtt att tcc 583  
 Phe Leu Thr Pro Lys Lys Leu Gln Cys Val Asp Leu His Val Ile Ser  
 165 170 175 180

aat gac gtg tgt gcg caa gtt cac cct cag aag gtg acc aag ttc atg 631  
 Asn Asp Val Cys Ala Gln Val His Pro Gln Lys Val Thr Lys Phe Met  
 185 190 195

ctg tgt gct gga cgc tgg aca ggg ggc aaa agc acc tgc tcg ggt gat	679
Leu Cys Ala Gly Arg Trp Thr Gly Gly Lys Ser Thr Cys Ser Gly Asp	
200	205
210	
tct ggg ggc cca ctt gtc tgt aat ggt gtg ctt caa ggt atc acg tca	727
Ser Gly Gly Pro Leu Val Cys Asn Gly Val Leu Gln Gly Ile Thr Ser	
215	220
225	
tgg ggc agt gaa cca tgt gcc ctg ccc gaa agg cct tcc ctg tac acc	775
Trp Gly Ser Glu Pro Cys Ala Leu Pro Glu Arg Pro Ser Leu Tyr Thr	
230	235
240	
aag gtg gtg cat tac cgg aag tgg atc aag gac acc atc gtg gcc aac	823
Lys Val Val His Tyr Arg Lys Trp Ile Lys Asp Thr Ile Val Ala Asn	
245	250
255	260
ccc tgagcaccccc tatcaacccc ctattgtagt aaacttggaa ctttggaaat	876
Pro	
gaccaggcca agactcaagc ctccccagtt ctactgaccc ttgtccttag gtgtgaggc	936
caggggttgcg aggaaaagaa atcagcagac acaggtgtag accagagtgt ttcttaatg	996
gtgttaatttt gtcctctctg tgcctgggg aatactggcc atgcctggag acatatcact	1056
caatttctct gaggacacag ataggatggg gtgtctgtgt tatttgggg gtacagagat	1116
gaaagagggg tgggatccac actgagagag tggagagtga catgtctgg acactgtcca	1176
tgaagcactg agcagaagct ggaggcacaa cgcaccagac actcacagca aggatggagc	1236
tgaaaacata acccaactctg tcctggaggc actgggaagc ctagagaagg ctgtgagcca	1296
aggagggagg gtcttcctt ggcattggat gggatgaag taaggagagg gactggaccc	1356
cctggaaagct gattcactat gggggaggt gtattgaagt cctccagaca accctcagat	1416
ttgatgattt cctagtagaa ctcacagaaa taaagagctg ttatactgtg	1466

<210> 19  
 <211> 261  
 <212> PRT  
 <213> Homo sapiens

<400> 19	
Met Trp Val Pro Val Val Phe Leu Thr Leu Ser Val Thr Trp Ile Gly	
1	5
10	15
Ala Ala Pro Leu Ile Leu Ser Arg Ile Val Gly Gly Trp Glu Cys Glu	
20	25
30	
Lys His Ser Gln Pro Trp Gln Val Leu Val Ala Ser Arg Gly Arg Ala	
35	40
45	

Val Cys Gly Gly Val Leu Val His Pro Gln Trp Val Leu Thr Ala Ala  
       50                  55                  60

His Cys Ile Arg Asn Lys Ser Val Ile Leu Leu Gly Arg His Ser Leu  
       65                  70                  75                  80

Phe His Pro Glu Asp Thr Gly Gln Val Phe Gln Val Ser His Ser Phe  
       85                  90                  95

Pro His Pro Leu Tyr Asp Met Ser Leu Leu Lys Asn Arg Phe Leu Arg  
       100                 105                 110

Pro Gly Asp Asp Ser Ser His Asp Leu Met Leu Leu Arg Leu Ser Glu  
       115                 120                 125

Pro Ala Glu Leu Thr Asp Ala Val Lys Val Met Asp Leu Pro Thr Gln  
       130                 135                 140

Glu Pro Ala Leu Gly Thr Thr Cys Tyr Ala Ser Gly Trp Gly Ser Ile  
       145                 150                 155                 160

Glu Pro Glu Glu Phe Leu Thr Pro Lys Lys Leu Gln Cys Val Asp Leu  
       165                 170                 175

His Val Ile Ser Asn Asp Val Cys Ala Gln Val His Pro Gln Lys Val  
       180                 185                 190

Thr Lys Phe Met Leu Cys Ala Gly Arg Trp Thr Gly Gly Lys Ser Thr  
       195                 200                 205

Cys Ser Gly Asp Ser Gly Gly Pro Leu Val Cys Asn Gly Val Leu Gln  
       210                 215                 220

Gly Ile Thr Ser Trp Gly Ser Glu Pro Cys Ala Leu Pro Glu Arg Pro  
       225                 230                 235                 240

Ser Leu Tyr Thr Lys Val Val His Tyr Arg Lys Trp Ile Lys Asp Thr  
       245                 250                 255

Ile Val Ala Asn Pro  
       260

<210> 20  
 <211> 232  
 <212> PRT  
 <213> Homo sapiens

<400> 20  
 Met Asn Phe Leu Leu Ser Trp Val His Trp Ser Leu Ala Leu Leu Leu  
       1                  5                  10                  15

Tyr Leu His His Ala Lys Trp Ser Gln Ala Ala Pro Met Ala Glu Gly  
       20                  25                  30

Gly Gly Gln Asn His His Glu Val Val Lys Phe Met Asp Val Tyr Gln  
 35 40 45

Arg Ser Tyr Cys His Pro Ile Glu Thr Leu Val Asp Ile Phe Gln Glu  
 50 55 60

Tyr Pro Asp Glu Ile Glu Tyr Ile Phe Lys Pro Ser Cys Val Pro Leu  
 65 70 75 80

Met Arg Cys Gly Gly Cys Cys Asn Asp Glu Gly Leu Glu Cys Val Pro  
 85 90 95

Thr Glu Glu Ser Asn Ile Thr Met Gln Ile Met Arg Ile Lys Pro His  
 100 105 110

Gln Gly Gln His Ile Gly Glu Met Ser Phe Leu Gln His Asn Lys Cys  
 115 120 125

Glu Cys Arg Pro Lys Lys Asp Arg Ala Arg Gln Glu Lys Lys Ser Val  
 130 135 140

Arg Gly Lys Gly Lys Gly Gln Lys Arg Lys Arg Lys Ser Arg Tyr  
 145 150 155 160

Lys Ser Trp Ser Val Tyr Val Gly Ala Arg Cys Cys Leu Met Pro Trp  
 165 170 175

Ser Leu Pro Gly Pro His Pro Cys Gly Pro Cys Ser Glu Arg Arg Lys  
 180 185 190

His Leu Phe Val Gln Asp Pro Gln Thr Cys Lys Cys Ser Cys Lys Asn  
 195 200 205

Thr Asp Ser Arg Cys Lys Ala Arg Gln Leu Glu Leu Asn Glu Arg Thr  
 210 215 220

Cys Arg Cys Asp Lys Pro Arg Arg  
 225 230

<210> 21  
 <211> 191  
 <212> PRT  
 <213> Homo sapiens

<400> 21  
 Met Asn Phe Leu Leu Ser Trp Val His Trp Ser Leu Ala Leu Leu Leu  
 1 5 10 15

Tyr Leu His His Ala Lys Trp Ser Gln Ala Ala Pro Met Ala Glu Gly  
 20 25 30

Gly Gly Gln Asn His His Glu Val Val Lys Phe Met Asp Val Tyr Gln  
 35 40 45

Arg Ser Tyr Cys His Pro Ile Glu Thr Leu Val Asp Ile Phe Gln Glu  
 50 55 60

Tyr Pro Asp Glu Ile Glu Tyr Ile Phe Lys Pro Ser Cys Val Pro Leu  
 65 70 75 80

Met Arg Cys Gly Gly Cys Cys Asn Asp Glu Gly Leu Glu Cys Val Pro  
 85 90 95

Thr Glu Glu Ser Asn Ile Thr Met Gln Ile Met Arg Ile Lys Pro His  
 100 105 110

Gln Gly Gln His Ile Gly Glu Met Ser Phe Leu Gln His Asn Lys Cys  
 115 120 125

Glu Cys Arg Pro Lys Lys Asp Arg Ala Arg Gln Glu Asn Pro Cys Gly  
 130 135 140

Pro Cys Ser Glu Arg Arg Lys His Leu Phe Val Gln Asp Pro Gln Thr  
 145 150 155 160

Cys Lys Cys Ser Cys Lys Asn Thr His Ser Arg Cys Lys Ala Arg Gln  
 165 170 175

Leu Glu Leu Asn Glu Arg Thr Cys Arg Cys Asp Lys Pro Arg Arg  
 180 185 190

<210> 22

<211> 147

<212> PRT

<213> Homo sapiens

<400> 22

Met Asn Phe Leu Leu Ser Trp Val His Trp Ser Leu Ala Leu Leu Leu  
 1 5 10 15

Tyr Leu His His Ala Lys Trp Ser Gln Ala Ala Pro Met Ala Glu Gly  
 20 25 30

Gly Gly Gln Asn His His Glu Val Val Lys Phe Met Asp Val Tyr Gln  
 35 40 45

Arg Ser Tyr Cys His Pro Ile Glu Thr Leu Val Asp Ile Phe Gln Glu  
 50 55 60

Tyr Pro Asp Glu Ile Glu Tyr Ile Phe Lys Pro Ser Cys Val Pro Leu  
 65 70 75 80

Met Arg Cys Gly Gly Cys Cys Asn Asp Glu Gly Leu Glu Cys Val Pro  
 85 90 95

Thr Glu Glu Ser Asn Ile Thr Met Gln Ile Met Arg Ile Lys Pro His  
 100 105 110

Gln Gly Gln His Ile Gly Glu Met Ser Phe Leu Gln His Asn Lys Cys  
 115 120 125

Glu Cys Arg Pro Lys Lys Asp Arg Ala Arg Gln Glu Lys Cys Asp Lys  
130 135 140

Pro Arg Arg  
145